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New Fossil Deposits of Diatomaceæ.

The diatomaceous deposits of fossil marine forms recently discovered at Szent Peter and Struhar in Hungary, and Brunn in Moravia, have been attracting the attention of diatom students for some time past, on account of the new and rare forms which they contain, but a fossil marine deposit that is likely to prove of still greater interest is that from Oamaru, New Zealand. Messrs. Grove and Sturt have described and figured many of its forms in the last number of the Journal of the Quekett Microscopical Club, and expect to make an exhaustive study of the deposit.

Mr. H. Morland, of Cranford, near Hounslow, England, who furnished the material to Messrs. Grove and Sturt, also kindly furnished the writer with a supply, and gives the following information in regard to the locality: "Oamaru is a town in the middle island of New Zealand, on the East coast, in $45^{\circ} 8'$, South latitude, and 171° East longitude. The material was found in the Cave valley, beneath a series of limestone strata known as the Otatara series, belonging to the Lower Tertiary." Messrs. Grove and Sturt call attention to the curious fact that several of the species in the deposit have only been found previously in the famous deposit on the Cambridge estate, Barbadoes, also that some of the species found in the deposits from Simbirsk, Siberia, and Brunn, Moravia, occur in it with only slight variation. Some of the species found in it are still found living in the Indian Ocean. Over thirty distinct species of *Triceratium* have been discovered in the deposit, and over forty species have been found that have never been described. As the material is imported into England for some industrial purpose, under the erroneous name of *kaolin*, it is probable that diatomists will be able ere long to secure abundant supplies of it. It is rather difficult material to clean, but amply repays for the trouble on account of the beauty and rarity of its forms. To break up the deposit, Mr. Morland recommends the alternate boiling in caustic potash and sulphuric acid, as follows: "Boil first in a strong solution of caustic potash, pour off the disintegrated portion into a beaker glass, and thoroughly wash the undissolved portion, pouring the water into the same beaker. Then boil in sulphuric acid and pour off the portions thus broken up into another beaker, carefully washing

as before. Continue the process with the potash and acid solutions alternately until all lumps are broken up. The disintegrated material can then be thoroughly washed and further treated in the usual manner."

Another deposit that is of remarkable interest was struck in sinking an artesian well at Cambridge, Maryland, a few months since. It contains a number of new and strange forms, but the most remarkable is a perfect disc with the raphe and nodules of a *Navicula*. Three species have been observed, two of which have a rim closely resembling that of *Melosira sulcata*. Specimens of *Triceratium*, including the curious *Triceratium Marylandica*, are also pretty abundant. It is to be hoped that some of our American workers will figure the new forms of this deposit and not wait for the work to be done abroad. We hope to have something further to say about it.

C. HENRY KAIN.

Forms of *Platanus occidentalis*.

I have for many years past pointed out to botanical friends the forms of planes of the character indicated at p. 247, Vol. xiii. The one with the rounder leaves has them also thin, and of a dull green tint. The variety with the more pointed leaves has them also coriaceous and with a shining surface. I find the two forms together over the whole Atlantic slope, so far as I have seen, both in the same localities. Any one can soon learn to distinguish the trees, even when passing them on railroad trains. When we collect the specimens and dry them, it is, however, very difficult to define the difference. I have several times tried to do so with no satisfaction. In regard to variations, gardeners find they can be perpetuated by seeds as well as by cuttings. In this respect, a variation has not the different behavior from a species that at one time was supposed to characterize it.

THOMAS MEEHAN.

Euphrasia officinalis L.

The note on this plant (Vol. xiii., p. 232) indicates that on the northern Atlantic slope its preferences are for rather dry situations. It may be of interest to add that in my Alaskan col-